



SPSS Tip 19.1

Statistical options for crosstabs

- **Chi-square:** This performs the Pearson chi-square test (Section 19.3.2).
- **Phi and Cramér's V:** These are measures of the strength of association between two categorical variables. Phi is used with 2×2 contingency tables (i.e., you have two categorical variables and each variable has only two categories). Phi is calculated by taking the chi-square value and dividing it by the sample size and then taking the square root of this value. If one of the two categorical variables contains more than two categories then Cramér's V is preferred to phi because phi fails to reach its minimum value of 0 (indicating no association) in these circumstances.
- **Goodman and Kruskal's lambda (λ):** This statistic measures the proportional reduction in error that is achieved when membership of a category of one variable is used to predict category membership of the other variable. A value of 1 means that one variable perfectly predicts the other, whereas a value of 0 indicates that one variable in no way predicts the other.
- **Kendall's statistic:** This statistic is discussed in Section 8.4.4.